

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars.

1. In the claims

As shown in the foregoing LIST OF CURRENT CLAIMS, the claims have been amended to more clearly point out the subject matter for which protection is sought.

Claims 1-6 are amended to remove reference numerals. It is respectfully submitted that no new matter is added, since the use of reference numerals does not affect the scope of the claims (MPEP § 608.01(m)).

Claim 1 is further amended to recite that the piston connected to the inlet valve is movable in a cylinder to open and close the inlet valve without the use of a spring acting on the piston and to recite that the connection between the first cylinder chamber and the part of the rotor chamber located near the inlet valve is always open. It is respectfully submitted that no new matter is added, since support for the amendments may be found, for example, at least in Figs. 1 through 4 of the pending application and at least on page 6, line 1, page 8, lines 21-26, page 9, line 24 through page 10, line 1, and page 12, lines 17-19 of the accompanying description in the specification as originally filed.

Claims 1 and 2 are also amended to provide clear antecedent basis for each recited element. It is respectfully submitted that no new matter is added as the changes merely provide clarity regarding previously recited elements.

Entry of the LIST OF CURRENT CLAIMS is respectfully requested in the next Office communication.

2. Rejection of claims 1-6 (the inclusion of claim 3 in this rejection appears to be a typographical error) under 35 U.S.C. § 103(a) as being unpatentable over Belgium Patent BE 1,012,655 (*Coppens*) in view of U.S. patent no. 3,367,562 (*Persson et al.*) and further in view of U.K. publication no. GB 2,133,585 (*Ott*)

Reconsideration of this rejection is respectfully requested, in view of the amendments to claim 1, on the basis that the proposed combination of the *Coppens* and *Persson* patents and the *Ott* publication fails to disclose each and every recited feature of amended claim 1, and thus, the rejection fails to establish a *prima facie* case of obviousness with respect to amended claim 1. The remaining claims depend from claim, and are therefore patentable as containing all of the recited elements of claim 1, as well as for their respective recited features.

By way of review, the embodiment of amended claim 1 requires a compressor, containing a compressor element, and having a rotor chamber connected to an inlet pipe and an outlet pipe. A reservoir is in communication with the outlet pipe. A pressure regulating system includes an inlet valve associated with the inlet pipe. A double-acting piston is connected to the inlet valve and is movable in a cylinder to open and close the inlet valve without the use of a spring acting on the piston.

A bridge bridging the inlet valve includes between the inlet pipe and the rotor chamber a successively mounted gas stream limiter and a non-return valve which only admits gas into the rotor chamber.

A gas pipe connects the reservoir to a part of the bridge situated between the gas stream limiter and the non-return valve. A relief valve is associated with the gas pipe.

The double acting piston divides the cylinder into first and second closed cylinder chambers. The first cylinder chamber, on a first side of the piston facing away from the inlet valve, is connected to a part of the rotor chamber located near the inlet valve via a first pipe, wherein the connection is always open.

On a second side of the piston, the second cylinder chamber is connected to a part of the rotor chamber situated near the inlet valve and to the non-return valve via a second pipe.

In contrast to amended claim 1, the *Coppens* patent discloses a single acting piston 36 that is actuated on one side only to open inlet valve 3 and also includes a return spring 39 that is utilized to act on the piston 36 in order to close the inlet valve 3. As discussed above, the embodiment of amended claim 1 requires a double-acting piston to open and close the inlet valve without the use of a spring acting on the piston.

Further, as acknowledged in the Office action on page 4, the *Coppens* patent fails to disclose the recited chamber-specific piping setup, including the connection between the first cylinder chamber and the rotor chamber always being open, as required by amended claim 1.

As also acknowledged in the Office action on page 4, the *Coppens* patent fails to disclose the recited non-return valve or bridge bridging the inlet valve.

The Office action turns to the *Persson* patent in an attempt to provide the missing structure. However, there are a number of additional deficiencies associated with the *Persson* patent. Specifically, as acknowledged in the Office action on page 5, the *Persson* patent fails to disclose the recited bridge bridging the inlet valve.

Additionally, the *Persson* patent fails to disclose a double-acting piston connected to the inlet valve for opening and closing the inlet valve without the use of a spring acting on the piston, as required by amended claim 1.

In particular, the element 37 that is relied upon in the Office action to show a double acting piston is in actuality a double headed valve member (col. 2, line 36). The double headed valve member 37 cannot be considered a double-acting piston as required by amended claim 1, since the double headed valve member 37 functions in a substantially different manner, and is not connected to the throttle valve 6 to open

and close the throttle valve without the use of a spring acting on the valve member (see springs 40, 42).

Further, since the movement of the valve member 37 within the space 36 allows communication between spaces 34 and 35, the valve member 37 does not divide the space 36 into first and second closed cylinder chambers, as is required by amended claim 1.

Further still, in contrast to amended claim 1, which requires the connection between the first cylinder chamber and the rotor chamber to always be open, the purported connection between space 35 and the rotor chamber via pipe 70 is closed. Specifically, rolling membrane 26 contained within the cylinder 27 prevents any communication between the space 35, via pipe 70, with the rotor chamber. While the space 35 may connect with the air intake conduit 4 via pipes 51 and 58, there is a valve member 54 positioned between the pipes 51 and 58 which selectively closes off this connection path, in clear contrast to the requirement of amended claim 1 that the connection between the first cylinder chamber and the rotor chamber is always open.

Even further still, the Office action indicates that the throttle valve 6 is considered both as an inlet valve, and as a non-return valve. Since the throttle valve 6 clearly includes a restricted port 7 passing therethrough, there is no reasonable interpretation that would allow the throttle valve 6 to be considered as a non-return valve. Thus, the assertion in the Office action that the second cylinder chamber is connected to a non-return valve cannot be maintained, since there is no disclosure in the *Persson* patent of a non-return valve.

The Office action next turns to the *Ott* publication in order to cure the above noted deficiencies of the *Persson* patent. However, the *Ott* publication also fails to disclose a double-acting piston connected to an inlet valve and which is movable in a cylinder to open and close the inlet valve without the use of a spring acting on the piston, as is required by amended claim 1. The *Ott* publication also fails to disclose the always open connection between a first cylinder chamber and the rotor chamber,

as is required by amended claim 1. Additionally, the *Ott* publication fails to disclose a gas stream limiter in the bridge, as is required by amended claim 1.

Since the *Ott* publication does not disclose a double-acting piston, the *Ott* publication cannot be relied upon to cure the deficiencies of the *Coppens* and *Persson* patents, which both also fail to disclose a double-acting piston connected to an inlet valve and which is movable in a cylinder to open and close the inlet valve without the use of a spring acting on the piston, as is required by amended claim 1.

Thus, the proposed combination of the *Coppens* and *Persson* patents and the *Ott* publication fails to disclose a double-acting piston connected to an inlet valve and which is movable in a cylinder to open and close the inlet valve without the use of a spring acting on the piston, as is required by amended claim 1, and a *prima facie* case of obviousness cannot be maintained with respect to amended claim 1.

Further, since the *Ott* publication does not disclose an always open connection between the first cylinder chamber and the rotor chamber, the *Ott* publication cannot be relied upon to cure the deficiencies of the *Coppens* and *Persson* patents, which both also fail to disclose an always open connection between the first cylinder chamber and the rotor chamber, as is required by amended claim 1.

Thus, the proposed combination of the *Coppens* and *Persson* patents and the *Ott* publication fails to disclose an always open connection between the first cylinder chamber and the rotor chamber, as is required by amended claim 1, and a *prima facie* case of obviousness cannot be maintained with respect to amended claim 1.

Further still, the Office action relies on the *Ott* publication to show a bridge that includes a gas stream limiter (said bridge acknowledged to be missing from the *Coppens* and *Persson* patents). The Office action indicates that check valve 11 in the *Ott* publication is considered to be a gas stream limiter. However, the gas stream limiter of amended claim 1 inherently allows gas to flow in both directions across the limiter (see Figs. 2 and 3 of the pending application). Since a check valve only allows

fluid to flow in one direction therethrough, the check valve 11 of the *Ott* publication cannot be considered a gas stream limiter as required by amended claim 1.

Accordingly, the proposed combination of the *Coppens* and *Persson* patents and the *Ott* publication fails to disclose a gas stream limiter in a bridge, as is required by amended claim 1, and a *prima facie* case of obviousness cannot be maintained with respect to amended claim 1.

Even further still, the check valve 11 is not successively positioned with the check valve 13 within the bridge 12 of the *Ott* publication, but rather the check valve 11 is positioned in the suction line 2 outside of the bridge. Thus, the *Ott* publication fails to disclose a successively mounted gas stream limiter and a non-return valve within a bridge, as required by amended claim 1.

Accordingly, the proposed combination of the *Coppens* and *Persson* patents and the *Ott* publication fails to disclose a successively mounted gas stream limiter and a non-return valve within a bridge, as is required by amended claim 1, and a *prima facie* case of obviousness cannot be maintained with respect to amended claim 1.

For the numerous reasons discussed above, even if a person of ordinary skill in the art were to combine the features of the *Coppens* and *Persson* patents and the *Ott* publication, the proposed combination would fail to disclose every recited feature of amended claim 1, and a *prima facie* case of obviousness cannot be maintained with respect to amended claim 1. Therefore, withdrawal of this rejection is respectfully requested.

As mentioned above, applicants submit that independent claim 1 is patentable and therefore, claims 2-6, which depend from claim 1, are also considered to be patentable as containing all of the elements of claim 1, as well as for their respective recited features.

3. Rejection of claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Belgium Patent BE 1,012,655 (*Coppens*) in view of U.S. patent no. 3,367,562 (*Persson et al.*) in view of U.K. publication no. GB 2,133,585 (*Ott*) and further in view of U.S. patent no. 4,406,589 (*Tsuchida et al.*)

Reconsideration of this rejection is respectfully requested on the basis that the *Tsuchida* patent fails to provide for the deficiencies of the proposed combination of the *Coppens* and *Persson* patents and the *Ott* publication, as discussed above with respect to amended claim 1, from which claim 3 depends.

Accordingly, withdrawal of this rejection is respectfully requested.

4. Conclusion

As a result of the amendment to the claims, and further in view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that every pending claim in the present application be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicants' attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,



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